Research Article

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Learning experiences of Japanese health and physical education teachers in online comprehensive sexuality education program

Abstract: The purpose of this study was to investigate secondary Japanese health and physical education teachers' learning experiences in an online comprehensive sexuality education (CSE) professional development program. Based on andragogy theory (adult learning theory) we employed a descriptive qualitative methodology with semi-structured interviews (Seidman 1998. *Interviewing as qualitative research: A guide for researchers in education and the social sciences*, 2nd edn. New York: Teachers College Press). The participants (one female and five male) were in-service health and physical education teachers enrolled in an online CSE professional development program. Data collection included the individual interviews that were conducted and lasted between 60 and 90 min. A constant comparative method was used to interpret the data. There are

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three major interrelated and complex themes that emerged from the participants' narratives: (a) *predicting potential and possible sexual risk behaviors among secondary school students*, (b) *finding case studies in CSE professional development that stimulate students' critical thinking*, and (c) *learning how to maximize students' comfort zones in uncomfortable situations in CSE professional development*. The teachers believed that online CSE professional development was beneficial, because they would be able to predict their students' risk behaviors and prepare themselves to be effective mentors. Due to the paucity of research in this area, further investigations of this phenomenon are needed.

Keywords: health and physical education teachers; comprehensive sexuality education; professional development; secondary schools; Japan

1 Introduction

According to Sato et al. (2023), Japanese health and physical education teachers struggle to teach content related to sexuality education. This struggle stems from being required to cover a wide range of topics including biological and physiological aspects of sexuality and pregnancy, abortion, and sexual health behaviors. Additionally, many Japanese health and physical education teachers also face challenges in delivering effective instruction in sexuality education, and have concerns about student, parent, and administrator responses (Kizuka et al. 2025; Sato et al. 2025). Moreover, Japanese health and physical education teachers are not comfortable or confident to respond their students' relevant needs related to sexuality topics, and struggle to design activities to meet these needs (Sato et al. 2022). To improve the quality of sexuality education instruction and the self-confidence of Japanese health and physical education teachers, comprehensive sexuality education (CSE) may be used as curricular and instructional approach that could play a vital role in empowering secondary school students to navigate their sexual and reproductive health with knowledge and confidence. Because CSE is designed to teach secondary school students about the cognitive, emotional, physical, and social aspects of sexuality (Rivenes Lafontan et al. 2024), students are empowered to know, understand, and value comprehensive sexuality content. Specifically, CSE goes beyond simply providing information about sexual health, and focuses on age-appropriate and culturally relevant skill development using a wide range of topics including human rights, gender equity, and violence prevention (Rivenes Lafontan et al. 2024). CSE works in alignment with the goals of secondary health and physical education programs, where teachers are assigned to guide secondary school students in gaining knowledge, skills, attitudes, and values needed to make informed decisions; develop respectful relationships; understand and protect individual rights; and promote critical thinking, self-efficacy, and empathy (Anderson et al. 2009).

For CSE to be successfully implemented, it is important that Japanese health and physical education teachers receive professional development opportunities in relation to CSE. However, there are two major barriers regarding the current status of professional development related to sexuality education: (a) many Japanese health and physical education teachers have not received training in teaching CSE, and (b) many school districts do not offer adequate CSE professional development regarding the effective delivery of CSE for health and physical education teachers (Thin Zaw et al. 2021). Therefore, this study focused on a problem-solving-based online professional development CSE program, addressing the problems and challenges voiced by Japanese health and physical education teachers in previous research (Sato et al. 2023) regarding the sexuality education teaching experiences in secondary schools. This study used an online learning platform offering a web-based virtual educational experience to best meet the scheduling needs of the Japanese teachers with convenience and flexibility (Tomura et al. 2024). Japanese health and physical education teachers could access the learning platform (e.g., to view videos and post on the electronic bulletin board) from flexible locations and with flexible timing (Dille and Røkenes 2021).

In Japan, sexuality education professional development is historically considered an important opportunity for Japanese teachers to reflect on, and improve, how they teach students in sexuality education classes (Coulter and Woods 2012; Tsuda et al. 2019). In general, the purpose of professional development for in-service teachers in Japan is to enhance the quality of instruction, and to strengthen the abilities of teachers, ensuring the teachers possess new knowledge and skills to effectively educate students (MEXT 2025). These professional gains include cultivating practical teaching abilities, fostering a sense of mission, and allowing teachers to stand with confidence and pride in their role. Additionally, professional development aims to improve student outcomes by addressing the need to extend and renew teacher practice, skills, and beliefs. In this study, one of goals of the CSE professional development program is that the participants (health and physical education teachers) are trained to become ethical teachers who demonstrate attitudes and actions focused on what is best for students in the CSE context in their secondary school setting (Sato et al. 2023).

2 Online professional development in comprehensive sexuality education

The authors of this study received funding support from the Japan Society for Promotion and Science to design and develop online professional development programs in CSE for Japanese health and physical education teachers at secondary schools (see Table 1). Online education formats have become a central form of

Table 1: Module content: online CSE professional development.

Module title	Description	Uploaded materials
1. Introduction	This module covered the purpose of online CSE professional development including short and long term goals and objectives in the syllabus and current issues in teaching sexuality education	Lecture video clip (Facilitated by graduate student, high school student, and undergraduate students)
2. Sexual violence and prevention	This module collected case study scenarios regarding sexual violence and prevention. All participants are assigned to read and choose case study scenarios that potentially apply to their teaching in sexuality education classes	Lecture video clip Example of case study topic: Dating and Domestic Violence Prevention (High school student cases)
3. Response to sexual assaults	This module collected case study scenarios about how female students respond when they are victimized by someone touching or hugging them on a train, in an elevator, or on a street at night, which is a sex crime	Lecture video clip Example of case study topic: Victims of sexual assault
4. Discussion CSE lesson development	This module focused on a robust discussion where all facilitators shared key points of teaching and learning regarding CSE lesson development. They also shared social justice and diversity issues and concerns current students face in the audio clips	Audio clips (70 min) – Group conversation with facilitators including high school students, graduate, and undergraduate students, college professors, and health and physical education teachers
5. Unexpected pregnancy and abortion (my body, my choice, and my life)	This module offered case study scenarios regarding unexpected pregnancy and abortion (middle and high school students)	Lecture video clip Example of case study topic: Teenage pregnancy in high school students, PAPA Katsu
6. Compensated dating, LGBTQ (Lesbian, Gay, Bisexual, Transgender, and Queer)	This module offered case study scenarios regarding compensated dating and LGBTQ topics. The lecture includes PD content including human rights, ethical behavior, and societal attitudes	Lecture video clip Example of case study topic: Coming out as being gay, a personal journey that involves self-discovery
7. Menstruation and women's health	This module focused on understanding menstruation and women's health	Audio clips (70 min) – Group conversation with facilitators high school students, graduate, and undergraduate students, college professors, and health and physical education teachers

interaction not only between teachers and students, but also for professional development (Murtagh et al. 2023). However, effective online education is not simply a matter of adapting the structure and modes of interaction of the face-to-face classroom environment to an online format (Sato and Haegele 2018). In this study, all participants accessed a program website that housed the online learning modules for the course (Online Case Study Portfolio SEPDO 2025). The convenience and flexibility of online education allowed the in-service teachers to have autonomy and choice, as they accessed the online modules and materials whenever and wherever they needed to, and then took part in self-reflection and self-evaluation of their own learning (Sato and Haegele 2019). In this CSE professional development program, all participants were required to complete one weekly module a week for two months, covering eight weeks of learning. The modules consisted of seven different topics: (a) introduction; (b) sexuality violence and prevention; (c) response to sexual assaults; (d) discussion: CSE lesson development; (e) unexpected pregnancy and abortion: my body, my choice, and my life; (f) compensated dating; LGBTQ: lesbian, gay, bi-sexual, transgender, and queer; and (g) discussion of ethical behaviors in sexuality. Each module included short video clips and case study scenarios. To evaluate learning outcomes, all participants were required to complete weekly self-reflective journal logs which were evaluated by the researchers in this study.

3 Theoretical framework and purpose

This study is situated in andragogy theory (adult learning theory; Knowles 1989). Andragogy refers to adult learners' independent, self-directed learning to solve real-world professional issues and concerns (McKay et al. 2024). Knowles (1978) believed that learning is a life-long goal and should be understood at the adult level to foster desire to learn on a continuous basis throughout all stages of life. Chametzky (2014) raised three andragogical principles for adult learners (e.g., in-service teachers in this study) in the online education environment. The first principle is the self-management of learning, where adult learners take responsibility for their own learning, deciding what direction their learning will take, and becoming self-directed in decision making related to their learning. The second principle Chametzky asserted for adult learning related to empowerment, where adult learners in the online environment feel empowered by their self-directed learning and in turn incased their motivation to learn. The third principle Chametzky shared focuses on life experiences, where adult learners' life experiences serve as a foundation for new knowledge and allow for deep and meaningful connections which are assets to the learning process. In sexuality education, for example, many Japanese teachers experience their male students making sexist comments that lead to teasing and

name-calling (Sato et al. 2023). Following Chametsky's third principle, these experiences serve as an anchor for new knowledge, where professional development is designed to solve this authentic problem using problem based learning or the case study approach. Related to these three principles, Stroud (2013) shared that adult learners find their own direction and make their own decisions regarding how to be actively involved in their own growth and development, ultimately resulting in empowering their students in educational settings.

A teachers' professional development is recognized as a powerful tool to keep in-service teachers up to date with recent developments in education, and to enable them to develop the skills needed for critical reflection, ongoing improvement, and lifelong learning (Makopoulou and Armour 2011). Knowles (1989) reveals that adult learners' process of learning in professional development programs include the following six components: (a) the need to know (Why do I need to know this?); (b) the learner's self-concept (I am responsible for my own decisions?); (c) the role of the learner's experiences (I have experiences which I value and you should respect.); (d) readiness to learn (I need to learn because my circumstances are changing.); (e) orientation to learning (Learning helps me deal with the situation in which I find myself.); and (f) motivation (I learn because I want to.). This study employs these components in our approach to teaching sexuality education, because it is a comprehensive framework that provides great opportunities to meet the unique needs of adult learners (McCauley et al. 2017).

The purpose of this study was to investigate secondary Japanese health and physical education teachers' learning experiences in an online comprehensive sexuality education professional development program. The research questions that guided the study were as follows: 1. What are Japanese health and physical education teachers' learning experiences in online CSE professional development?; 2. How do online modules of CSE mediate Japanese health and physical education teachers' thinking?; and 3. How do Japanese health and physical education teachers mediate the use of content in CSE for teaching students at secondary schools?

4 Methods

4.1 Research design

This study used a qualitative method with semi-structured interviews (Seidman 1998). Qualitative research allows researchers to investigate and explore data to

identify themes that can be linked to andragogy theory (Knowles 1989). The intent of using interviews was to elicit Japanese health and physical education teachers' learning experiences regarding online CSE professional development and explore meaning (Seidman 1998) in teaching CSE to students at secondary schools in Japan.

4.2 Positionality

This project on online CSE professional development aims to be self-reflective, recognizing how our social justice and diversity backgrounds, educational experiences, and experiences in health and physical education teachers' may impact the program design, analysis, and overall findings. Project members are four professors, one doctoral student, one undergraduate student, and one senior high school student who developed the online CSE professional development for Japanese health and physical education teachers. Specifically, the Japanese authors of this study contributed to the development of the CSE modules by writing the case study scenarios. The students on the research team designed the introduction of module 1, organized the discussion sessions of module 4 and 7, and served as moderators of various video clips.

4.3 Participants

This study used purposeful sampling (Patton 2002) to recruit six Japanese secondary health and physical education teachers (male = five; female = one; Ms. Okayama, Mr. Sakuma, Mr. Murakami, Mr. Yamachi, Mr. Kawashima, and Mr. Akino) from five secondary schools. The inclusion criteria were that the participants: (a) hold health education teaching licensure and teach sexuality education at their secondary schools, and (b) are interested in studying professional development in order to improve their instructional competency in teaching sexuality education. In this study, all participants had between three and twenty years of teaching experience in health and sexuality education at their secondary schools.

Approval to conduct the study was granted by the Institutional Review Board at the lead researcher's university and signed consent forms were collected from all six participants. The participant's pseudonyms and demographic backgrounds are indicated in Table 2.

Table 2: Characteristics and working conditions of participants.

School	Name	Age	Gender	Teaching experiences in sexuality education	Licensure	Prefecture
Private Middle School (boys)	Sakuma	20s	Male	3 Years	Secondary school HPE	Tokyo
Private Middle and High School (girls)	Okayama	40s	Female	20 Years	Secondary school HPE	Tokyo
Public High School	Murakami	40s	Male	20 Years	Secondary school HPE	Chiba
Public Middle School	Akino	30s	Male	11 Years	Secondary school HPE	Tokyo
Public Middle School	Kawashima	30s	Male	10 Years	Secondary school HPE	Tokyo
Public Middle and High School	Yamachi	40s	Male	20 Years	Secondary school HPE	Saitama

4.4 Semi-structured interviews and individual interview questions

As previously mentioned, this study used a descriptive-qualitative design with an in-depth and semi-structured interview approach (Seidman 1998), which is more structured than an informal conversational interview (Creswell 2013). The individual interviews were conducted and lasted between 60 and 90 min. During the interview, the researcher asked participants questions about their learning experiences in studying online professional development modules in CSE. In the individual interview, each teacher responded to questions in a conversational style. Questions asked during the interview included: (a) In what ways could the CSE online professional development module serve your education needs and solve issues and concerns you are facing while teaching students in your health education classes?; (b) Which case study scenarios will you be able to use as teaching resources and apply to your sexuality education classes? Why?; (c) How did your learning through the CSE online professional development modules transform your values or perspectives, such as assumptions against student differences?; and (d) What are your future plans to use the CSE online professional development modules in your sexuality education class? Please give us some examples.

4.5 Data translation process

This study used a cross-cultural translation technique, showcased in research by Banville et al. (2000) and Hodge et al. (2013), to prepare the data collected in Japanese

for analysis and reporting in English, which takes into consideration the uniqueness of the two cultures in the collected data. Informed by prior research using a cross-cultural translation technique, this study followed a cross-translational and analysis process. There were four native Japanese translators (A [data collector], B, C, and D) who were fluent in reading, writing, and speaking both the English and Japanese language. First, the three translators (A, B, and C) individually translated the original version of the interview data from Japanese to English language. Later, they compared their translated data with the goal of finding any differences so that they could arrive at an agreement related to the accuracy of the translated data. Then, they reviewed, modified, and edited the interview data (when necessary) for proper vocabulary, grammar, and syntax of the Japanese and English languages. The Japanese version from this process was sent to the fourth translator (Translator D) who checked content and context components of the translated data into English. In the second step, all bilingual translators evaluated and agreed upon the accuracy of the interview data. Later, the lead researcher, with expertise in both Japanese and English language, as well as expertise on the theory of teacher development, critically compared their translations.

4.6 Data analysis

This study used a constant comparative analysis method (Boeije 2010). The strategy of this analytical process is that researchers constantly compare interview data. More specifically, researchers analyzed the transcripts from the initial interview transcriptions and coded them independently. Next, the first and second researchers discussed differences in their first round of independent codes until an agreement was reached. Then, two peer debriefers (fellow researchers) reviewed the codes to avoid potential researcher bias. After the peer debriefing process, the researchers grouped the codes into thematic categories as recurring themes (Boeije 2010). Next, researchers sent all data and definitions of key terms to all participants for member checking, after which the research team received final confirmation from all participants.

5 Results

There are three major interrelated and complex themes that emerged from the analysis of the interview data: (a) *predicting potential and possible sexual risk behaviors among secondary school students,* (b) *finding case studies in CSE professional development that stimulate students' critical thinking,* and (c) *learning how to*

maximize students' comfort zones in uncomfortable situations in CSE professional development. These themes illustrate the participants' opinions, thoughts, and expectations about CSE professional development and reflections on their learning experiences.

5.1 Theme I: Predicting potential and possible sexual risk behaviors among secondary school students

Theme one displayed that the participants learned that when they studied sexual violence and prevention, response to sexual assault, and compensated dating in online CSE professional development, they would be able to predict potential and possible sexual risk behaviors their students could or would be facing. They also felt that the design of the lectures in the CSE professional development were developmentally sound, relevant and engaging for their students, which sparked their interest in being able to develop their own case studies with non-fictional scenarios and true stories to prepared themselves to handle various incidents including sexual violence and sexual risk behaviors. For example, Mr. Murakami said:

> When I read the module on sexuality violence and prevention, I was shocked. Before I learned the modules of sexuality violence and prevention and sexual assault, I asked many students to discuss gender issues and sexual health in the class discussion. However, my students became passive learners, because my students could not relate to the content in my sexuality education classes. However, when I look at this module, I felt that modules and case studies are much more persuasive and send powerful messages to my students. This is my opinion OK? I think that when I teach sexuality education classes, my students need to increase the empathy and predict their own behaviors and actions regarding sexual health. (Mr. Murakami, interviews)

Mr. Murakami explained that the CSE professional development allowed him to self-reflect his instructional strategies that position his students from passive learners to active learners. He believed that CSE professional development should emphasize values including respect, inclusion, non-discrimination, equality, empathy, responsibility and reciprocity. Another participant, Ms. Okayama said that after completing a few modules, she regretted not having these modules in the past, and realized the power of what she was learning through this CSE professional development opportunity. She said:

> I never thought that I could use professional development materials in teaching sexuality education in a comprehensive way. I reflected that my instructional materials (I used in sexuality education classes) may less influence or motivate my students' learning. I learned that sexuality education should be aligned with social issues and problems in relation to sexual risk behaviors secondary school students are facing. For example, we know the terminology "*PAPA*

Katsu" that some secondary female students receive expensive gifts or money from a sugar daddy. That is dangerous you know. After I completed the entire modules, I realized that comprehensive sexuality education should not be used just as a part of my health education curriculum, but instead I need to use these case studies in ongoing moral education and individual life guidance for my students. (Ms. Okayama, interviews)

Ms. Okayama explained that CSE professional development modules should be shared with school nurses, and other classroom teachers. She felt that many health and physical education teachers and secondary school students often have a hard time keeping up with information related to major societal problem surrounding the sexual health of young adolescents, because of the lack of access to comprehensive and accurate information. Another participant, Mr. Sakuma said:

I teach sexuality education for only male students. I am also male, so we did not have much opportunities to learn about female students' issues and concerns. I think that sexuality education should be co-educational, so that we need to exchange opinions and thoughts between both male and female students. I do not think I have the power to change from single sex education to co-education for sexuality education. However, after taking CSE professional development, I learned from case studies regarding high school female students who were victimized by ex-boyfriends or suffered from domestic violence. I do not have intention to avoid these contents, and I plan to include them in the future. But it may happen to everyone, since everyone did not have access to the CSE modules. We need to know about this and allow all students to make their own decisions when they are involve in similar situations. (Mr. Sakuma, interviews)

Mr. Sakuma explained that his students do not receive any opportunities to communicate with female students during sexuality education in single sex education classrooms. Therefore, CSE professional development was beneficial and Mr. Sakuma plans to share and use the case studies from the CSE modules as educational resources for violence prevention for his students.

5.2 Theme II: Finding case studies in CSE professional development that stimulate students' critical thinking

Theme two revealed that the participants felt that in order to use case studies in sexuality education classes at their schools, they needed to select case studies that would allow their students to develop critical thinking in sexuality education. Specifically, the participants need to facilitate learning experiences where their students can make responsible decisions about their sexual health and relationships. These learning experiences involve evaluating information, analyzing situations, and developing reasoning skills to understand complex issues like gender roles, consent,

and sexual violence. In module 6 (finding ethical ways to communicate with students regarding sexual health), the participants listened to a prerecorded group discussion that was recorded and edited between the researchers, graduate students, undergraduate students, and high school students two weeks prior to being shared on the online platform. They felt that listening to the discussion content was an eye-opening experience, because module 6 offered new perspectives and insights and led to a deeper understanding of teacher behaviors when communicating with students. For example, Mr. Kawashima said:

> When I listened to the conversation discussion, one of researchers said that "when a female student comes and talks to me about relationships with her boyfriend, she was seeking my advice…The problem is that the student sees me as a man or a health and physical education teacher. I need to change my advice based on my position". I think this discussion gave me a tough question. Off course, it could be easier when I decide my position as being a teacher, but regarding the relationship with her boyfriend, the female student may seek my personal opinions. As a teacher, I should not step into student privacy, but I do not know how to handle appropriately. (Mr. Kawashima, interviews)

Mr. Kawashima explained that he began to develop a critical thinking process regarding how to improve communication with this students by promoting objective analysis and clear communication about romantic relationships. Another participant, Mr. Yamachi explained:

> When I chose case studies as potential instructional resources for my sexuality education lessons, I imagine how my students react and respond if I show the selected case studies during sexuality education in the future. I need to select case studies with controversial content that include right and wrong answers. For example, when the teacher finds his or her student was victimized and got bruises or scars on their arms and legs from their father in a domestic violence situation, but then the student asked the teacher to keep secret. In this case, it is difficult to find the right answers, because it is important to think how to prevent students' body and mind from domestic violence. But at the same time, we need to think about how to deal with student's privacy and confidential information. Although this case study is about teachers' behaviors and actions in such a difficult case, the opportunity may allow students think critically about a multi-faceted issue. (Mr. Yamachi, interviews)

Mr. Yamachi went on to explain that it was important for him to be able to predict his students' reactions and responses when he utilized case studies from the CSE online professional development. For example, he wanted to use the case study and asked his students' opinions and thoughts related to dealing with students' confidential information, so that his students may be able to think critically and express their honest responses. Another participant, Mr. Akino shared his thoughts about communication:

> I think that this online professional development allowed me to reflect on my roles and responsibilities in dealing with students' sexual health and behaviors and the stories they share with me. I think this may be outside of sexuality education. I am a health and physical education teacher, but also a classroom teacher. I never thought that a classroom teacher needs to deal with students' sexual health including LGBTQ topics. I have not been in the situation, but it is a reality that my students may come and talk to me about their concerns about sexuality. I think, as a classroom teacher, I need to deal with these issues in some points of my life. I can listen, but I do not know what to and how to respond. It is tough, and these modules are giving me resources through the case studies. (Mr. Akino, interviews)

Mr. Akino explained that he believed that the CSE professional development helped him learn that he needed to serve various roles and responsibilities in his profession, including positions in the general academic classroom space, as well as in the health and physical education space. Therefore, the CSE online professional development may not only contribute to educating health and physical education teachers, but also for all in-service teachers spanning other academic subjects.

5.3 Theme III: Learning how to maximize students' comfort zones in uncomfortable situations in CSE professional development

Theme three captured participant's feelings that the online CSE professional development was beneficial, because they learned how to maximize students' comfort zones when their students are positioned in uncomfortable situations. For example, the participants found that their students have been suffering from their compounded disadvantages due to the interaction of multiple minority status or negative social positions and disclosure experiences (e.g., body image, gender identity, and/or sexual orientation; Hancock and Daigle 2021). In this study, the participants explained that there were some students who were uncomfortable when they took physical education classes such as swimming or martial arts. The participants realized that their students may not be comfortable when they change clothes or participate in contact sports or physical activities. Mr. Sakuma said that he was not aware of any issues when he taught physical education classes before taking the online CSE professional development, but that through the modules he realized that some students were hesitant to change their clothes in the locker rooms and/or participate in contact sports because they may be struggling with body image issues. For example, Mr. Sakuma explained:

> My school is for boys (knows as all- boys school). I have not thought about any gender issues and concerns especially in physical education classes. After taking this online PD, I tried to reflect on my past teaching experiences in physical education, and recalled that there were a few students

who asked me to change from *Judogi* which is the official uniform worn for the martial arts of Judo, because they did not want to change clothes in the locker rooms. Then, it seemed that these students were not happy when they were assigned to practice "*newaza*" which are ground techniques that focus on controlling an opponent on the ground through holds. I could tell that they were not comfortable to be touched during the practices. After taking the online PD regarding body and mind, I began to think that I need to find a way to maximize students' comfort zone. (Mr. Sakuma, interviews)

Mr. Sakuma went on to explain that he had unconscious assumptions and deeply ingrained stereotypes and attitudes that affect how he interacts with students and makes decisions in the classroom. He realized through the CSE professional development that his lessons should be designed and developed to minimize stereotypes and biases. Additionally, Mr. Yamachi said that all teachers need to know that they have their own unconscious assumptions that may position some students into uncomfortable situations. Moreover, he believed that all students have "double jeopardy" that put the teachers into difficult and challenging situations. Mr. Yamachi said:

I believe that the purpose of teaching sexuality education is that all students must seek their own comfort zone and happiness. Before we teach lessons, we should respect students' diverse backgrounds and social justice factors. One thing I learned that almost all students have double jeopardy that hold multiple minority status such as poverty and domestic violence in addition to sexuality, you know…I feel that students' struggles are complex and there is no single solution. This is why that CSE professional development offered cases that expand our knowledge and increase my repertoire and experiences. The CSE professional development helps me to make sure that my students and I find solutions and make all students comfortable and feeling supported. That is important. (Mr. Yamachi, interviews)

Mr. Yamachi explained that professional development should be tailored to his students' needs and goals, and it is important that a case-by-case approach be used in education. He found that the cases invited him to find innovative solutions to problems of "double jeopardy" in order to reach a judgment, decision, recommendation, prediction or other concrete outcome. Another participant, Mr. Kawashima, commented that it is important to include facets of emotional literacy in sexuality education, which was supported and promoted in the CSE online professional development. He said:

When I studied the case studies and listened to the lecture, I think professional development is not only about gaining knowledge and skills regarding how to teach better sexuality education, but I also think I should continuously think about emotional literacy that develops harmonious relationships with other students. Happiness is a good example. I need to make students happy when I teach sexuality education. When I teach sexuality education, it is a part of the life process, therefore, the teachers need to develop their own philosophy and thoughts regarding emotional literacy including happiness through family plans. That is the main goal and final

destination of sexuality education. I think there is much room for improving the quality of sexuality education, and this online professional development allowed me to see improvements I could make. (Mr. Kawashima, interviews)

Mr. Kawashima also shared that if he integrates emotional literacy into sexuality education, his students may be able to develop a wide range of cognitive, affective, and behavioral competencies, while they also learn the processes of self-awareness, self-management, and social awareness.

6 Discussion

The purpose of this study was to investigate secondary Japanese health and physical education teachers' learning experiences in online CSE professional development. The teachers believed that online CSE professional development was beneficial, because they would be able to predict their students' risk behaviors and prepare themselves to be effective mentors. Moreover, the teachers learned how to facilitate students' critical thinking opportunities and integrate emotional learning in order to maximize students' comfort zones in sexuality education lessons.

Additionally, the teachers felt that online CSE professional development was beneficial because they would be able to gain knowledge regarding risk behaviors that may affect students' physical and emotional well-being in the context of sexuality. According to Rodríguez-García et al. (2025), risky sexual behaviors among adolescents include: (a) early initiation of sexual activity, (b) frequent changes of partners, and (c) inadequate or non-use protectives measures during sexual practices. In this study, many teachers already knew that their students were at a stage of development characterized by numerous changes, during which their students often experience insecurity, seek acceptance from their peer group, and are easily influenced by their peers' opinions (Rodríguez-García et al. 2025). For example, in Japan, *Papa Katsu* (sugar daddy) is compensated dating (non-sexual relationships) in which young women including secondary school students match with potential sugar daddies through social network services (Gray 2022). It is sadly inevitable that there are many young women who fall victim to predatory older men. Therefore, online CSE professional development needs to be designed around real-life, authentic, and realistic scenarios where the teachers understand potential risks such as *Papa Katsu*, and other high risk sexuality behaviors and actions (Ince 2016). Identifying potential high risk behaviors that are authentic and based on real life experiences allows the CSE modules to outline cutting edge potential situations, an avoid missed opportunities for learning (Galman 2009) that can occur when content is not relevant or applicable. According to Pratt (1988), online CSE professional development not only

influences teachers' readiness to learn and teach, but also influences their readiness for andragogical type of learning experiences. For example, the teachers are professionally qualified and self-directed to improve the quality of teaching sexuality education, and they may be able to transform from self-directed learners to self-determined learners, which is called heutagogy (Chacko 2018). Heutagogy is a continuum of andragogy theory and self-determined process that focus on competency to capability (Chacko 2018).

Participants in this study taught a wide range of students, including Mr. Sakuma, who taught sexuality education classes at a high schools for boys. According to Rutgers (2016), teachers who teach single sex education need to understand that male students do not sense the power difference in sexuality education, and do not interpret female students' reactions as a sign of crossing the boundaries. Therefore, case studies in the online CSE professional development helped Mr. Sakuma to understand macho and stereotypical gender behaviors and power differences between boys and girls, prompting him to use the case studies as instructional resources when he teaches sexuality education. Ince (2016) suggests that facilitators of online CSE professional development need to consider four factors that guide teachers progress toward effective learning in order to teach potential risks in relation to sexuality for their students. These factors include: (a) eliciting prior knowledge and experiences, (b) creating cognitive dissonance, (c) applying knowledge with feedback and (d) reflecting on learning (Ince 2016).

Research indicated that when teachers select online CSE professional development material(s) as potential and future instructional materials, they choose materials that will stimulate their students' critical thinking skills and engage students in real life situations involving higher order thinking (Lithoxoidou and Georgiadou 2023). According to Snyder and Snyder (2008), critical thinking is a learned skill that must be developed, practiced, and continuously integrated into the curriculum (e.g. sexuality education) to engage students in active learning. For example, case studies in online CSE professional development offered a simulative learning for the teachers (Putnam and Borko 2000). The teachers viewed online case studies as an appealing opportunity to study sexuality education, because the case studies are authentic and interesting. Kang and Howren (2004) suggest that when the teachers use case study scenarios about sexuality education, they need to pay attention to preconception that their students may hold about the content of the case scenarios that may block their ability to think critically. More specifically, when their students have preconceptions including personal biases that prohibit critical thinking, they may lose their own analytical skills such as being fair, open-minded, and inquisitive about the case scenarios related to sexuality education (Dolapcioglu and Doğanay 2022). Broadbear (2003) explains that teachers should consider three elements when they use case study scenarios to enhance their students' critical thinking skills in

sexuality education classes including: (a) criteria for assessing thinking, (b) student assessment of thinking, and (c) improvement of thinking. In andragogy theory, the teachers have professional experiences that prove highly valuable in the sexuality education classes. By creating cognitive connections to previous knowledge, the teachers acquire pedagogical practices that are anchored to their prior knowledge, which are vital to the teachers' in online CSE professional development, increasing their motivation and their desire to learn (Chametzky 2014).

This study found that some teachers serve dual roles and responsibilities as both health and physical education teachers and classroom teachers, and struggled with these dual roles and their support of their students. When the teachers combine different positions (e.g., roles as classroom teachers, health and physical education teachers) in dealing with their students' sexuality, they might unintentionally position such students in or outside of their classes as powerless learners in isolated spaces, which can lead to negative consequences such as marginalizing (Yoon 2008). Therefore, Jones (1997) explained that it is important that teachers analyze and reflect on their own dispositions. In this study, the teachers felt that the CSE professional development was helpful, because they needed to prepare themselves to respond to potential challenges regarding sexual orientation cases including LGBTQ topics. According to Crothers et al. (2017), when the teachers noticed sexual orientation based incidents (e.g. bullying or teasing), they may not address the victimization of sexually diverse students due to a fear of discrimination, or their own prejudice or failure to recognize incidents related to sexual orientation. Therefore, it is important that the teachers know how to establish emotionally supportive and safe learning environment for sexually diverse students (Kosciw et al. 2012).

This study found that some teachers realized that their students may have beliefs related to homophobia in physical education and sport at their schools. For example, men's sport (e.g., *Judo*) has been described as a setting where a homophobic version of hegemonic masculinity is seen. Therefore, many male secondary students represent their own ideals regarding masculinity (Bush et al. 2012). Although some sports including martial arts (*Judo*) are considered as traditional and contact sports, there were some students who were hesitant to meet social norms of masculinity in the school culture. Therefore, in this study, one of the participants (Mr. Sakuma) realized, after taking part in the CSE professional development, that some of his students may be suffering from forced physical contact and positioned in an uncomfortable learning environment. CSE professional development allows teachers to establish a sense of purpose, not only in sexuality education and health education classes, but also across other academic subjects, so that they find their own values and benefits of the learning experience (Knowles 1989).

Additionally, the teachers learned that supporting students who are managing multiple layers of discrimination or othering requires intentional strategies to

support the social-emotional growth of students and their feelings of belongingness and safety. This understanding requires teachers to acquire information from all levels of marginalization and individual identity (Fleck-Henderson 2000). For example, if the teachers find that their students are being physically and sexually abused by family members, they may find it challenging to respond and defining outcomes (Shlonsky and Friend 2007). More specifically, some teachers may handle physical and sexual abuse as a part of domestic violence, but other teachers may deal with physical and sexual abuse and domestic violence separately (Shlonsky and Friend 2007). Therefore, the teachers often struggle to predict risk and make protective service decisions. In andragogy theory, the CSE professional development supports the teachers in connecting to professional experiences and expanding their knowledge related to modifying sexuality education that meet students' unique needs through unpredictable situations (Halpern and Hakel 2003).

In this study, the participants expected that the facilitators of the CSE professional development integrate emotional literacy into the sexuality education modules. Emotional literacy relates to the range of emotions one feels within one self, or perceives in others, as well as questioning social norms and expectations related to emotions (Seiler-Ramadas et al. 2021). This study helped the teachers learn how to develop cognitive, affective, and behavioral learning experiences through various modules and case scenarios in CSE professional development. However, the facilitators need to improve the quality of CSE professional development regarding emotional discomfort in relation to heterosexism, homophobia, and bullying (Staley and Leonardi 2019). Therefore, this study encourages the participants to use one critical question in a focus group discussion, like "how does the case scenario reproduce stereotypes in heterosexism, homophobia, or bullying?" and what should we do to maximize students' comfort zones in sexuality education? More specifically, the facilitators may need to embed emotional literacy and re-design CSE professional development using heutagogy theoretical framework (rather than andragogy theory) for effective adult learning. In andragogy theory, the teachers are self-directed learners who are actively involved in identifying their needs and planning how those needs are met in CSE professional development (Blaschke 2012). In contrast, heutagogy theory allows the teachers become self-determined learners, so that they consider the problem and take action and result outcomes, in addition, they reflect upon problem-solving process and how it influence the teachers' own beliefs and actions (Hase and Kenyon 2007). Therefore, heutagogy has the potential to become a theory of online education of CSE professional development, in part due to the ways in which heutagogy further extends the andragogical approach, because CSE professional development facilitates the teachers develop the learner-directed teachers and demonstrate their own capability to understand how their students understand

how to learn the contents of sexuality education at secondary schools (Anderson 2010).

7 Study limitations

This study has three major limitations. First, the participants were conveniently selected from school districts in Kanto regions in Japan where the researchers received approval and permission to interview health and physical education teachers at secondary schools. Therefore, the findings are not generalizable to all health and physical education teachers in various prefectures (e.g., Hokkaido, Osaka, Kyoto). Second, the online courses were not compared with face-to-face courses to make more generalizable conclusions about the results. Third, although there were many health and physical education teachers who studied online CSE professional development, the number of participants was small, because the researchers struggled to schedule the interviews. Therefore, this study needed more participants who had diverse backgrounds, experiences, and cultures. Nevertheless, qualitative inquiries, including case studies, typically use small samples, and in the logic of criterion sampling the intent is to capture and describe the central themes that represent the phenomena under study for a particular cohort of interest (Patton 2002). Our intent in using this sampling approach was to uncover common themes in health and physical education teachers' online CSE professional development experiences.

8 Recommendations and conclusions

The following recommendations are intended to improve the quality of online CSE professional development for health and physical education teachers. First, facilitators of online CSE professional development need to approach the teachers as acute observers, who demonstrate critically reflective practices regarding risk management (of sexuality education) during the learning journey (Clay 2022). Moreover, CSE professional development should be designed to secure subject knowledge and effective pedagogy including a constructive approach to adult learning, so that they may be able to maintain their motivations for learning and engage to manage and prepare themselves to handle potential risks their students face in sexuality education (Ince 2016).

Second, this study needs to improve collaborative learning activities that develop teachers' critical thinking skills in online CSE professional development (Yazici 2004). Snyder and Snyder (2008) recommend that all teachers complete a

project-based team approach in an experiential learning activity including discussion or debate activities. Through the project-based team approach, the teachers will gain critical thinking skills based on practical (online) applications of learning by doing and collaborative efforts required by an experiential learning activity (Ngai et al. 2023). Lastly, the facilitators of online CSE professional development should understand and allow the teachers to express their discomfort and feelings (e.g., anxiety or embarrassment) which stands in the way of effective communication (Alldred and David 2007). More specifically, it is important that the facilitators of online CSE professional development integrate social and emotional learning through story-based materials for breaking silence about taboo topics addressing stigma and discrimination regarding current issues and concerns in teaching sexuality education (Wong et al. 2019). By talking and writing about deep emotional experiences, and treating feelings and values as confidential, the teachers may feel safer to express themselves in an online CSE professional development platform (Seiler-Ramadas et al. 2021).

In conclusion, this study investigated Japanese health and physical education teachers' online CSE professional development experiences in teaching sexuality education. Providing effective online CSE professional development could result in teachers being able to prepare themselves to facilitate and maximize students' critical thinking skills and engage emotional learning when they provide quality sexuality education. Due to the paucity of research in this area, further investigations of this phenomenon are needed. Additionally, with the reliance of the andragogy theoretical framework, conducting studies using deductive approaches may be appropriate for further understanding of the phenomena.

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